

WHAT IS CLAIMED IS:

1. A control method of a data storage system in which multiple external storage systems those store information are connected to a first network and each of them is arranged separately, comprising:

generating an interrupt by an external storage system to a management server;

issuing an exclusive control command by said management server to said external storage system;

receiving by said management server, configuration information with which said external storage systems respond; and

storing in a database said configuration information that said management server received.

2. A control method of a data storage system in which multiple external storage systems those store information are connected to a first network and each of them is arranged separately, comprising:

issuing an exclusive control command by a management server to multiple external storage systems;

receiving by said management server, configuration information with which said external storage system responded; and

storing in a database, configuration information that said management server received.

3. The control method of the data storage system according to claim 2, wherein said management server acquires configuration information of said all external storage systems in point of time series and stores it in the database managed by said management server using said exclusive control command.

4. The control method of the data storage system according to claim 3, wherein a time series acquisition is made with a simultaneous and periodic inquiry into multiple external storage systems as moments.

5. A control method of a data storage system in which multiple computers those use information and multiple external storage systems those store information are connected to a network respectively and each of them is arranged separately, comprising:

logging on to a management server to request access permission;

issuing an exclusive control command by said management server to said external storage systems;

receiving by said management server configuration information with which said external storage system respond; and

storing in a database said configuration information that said management server received.

6. The control method of the data storage system according to claim 5, wherein said management server acquires configuration

information of said all external storage systems and stores it in the database managed by said management server using said exclusive control command.

7. The control method of the data storage system according to claim 5, further comprising:

activating application programs of said multiple computers based on said exclusive control command issued by said management server; and

receiving by said management server, host logical configuration information from said multiple computers.

8. The control method of the data storage system according to claim 7, wherein said configuration information stored in said database and said host logical configuration information are associated and stored in a database.

9. A control method of a data storage system in which multiple computers those use information and multiple external storage systems those store information are connected to a network respectively and each of them is arranged separately, comprising:

logging on to a management server to request access permission;

sending configuration information by said management server;

instructing said management server to change said configuration information;

issuing an exclusive control command by said management server to multiple external storage systems;

receiving by said management server the completion of a setting of said configuration information with which said external storage systems responded; and

storing in a database by said management server, a change of said configuration information.

10. The control method of the data storage system according to claim 6 or 9, wherein said configuration information that said management server handles includes:

setting concerning an internal access path of an external storage system, a logical unit, capacity of the logical unit, an access authority to the logical unit, or data move;

setting concerning data copy between said external storage systems;

setting or acquisition of performance control modes or performance data of said external storage systems; or

setting of a data storage system maintenance method, fault occurrence, fault notification, or user operation.

11. The control method of the data storage system according to claim 9, wherein an external storage system that is an object of a change of its configuration information is recognized and said exclusive control command is issued to only said external storage system.

12. A control method of a data storage system in which

multiple computers those use information and multiple external storage systems those store information are connected to a network respectively and each of them is separately, comprising:

issuing an exclusive control command by a management server
5 to multiple external storage systems;

receiving by said management server configuration information with which said external storage systems respond;

activating application programs of said multiple computers based on said exclusive control command issued by said management server;
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receiving by said management server, host logical configuration information from said multiple computers; and

storing in a database by said management server said received configuration information and host logical configuration information.
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13. The control method of the data storage system according to claim 12, further comprising:

generating an interrupt by said external storage systems to said management server.

20 14. The control method of the data storage system according to claim 12 or 13, wherein said management server acquires configuration information of the whole data storage system in point of time series and associates them, then stores them in a database of the management server using the exclusive
25 control command.

15. A control method of a data storage system in which multiple computers those use information and multiple external storage systems those store information are connected to a network respectively, each of them is arranged separately, and
 5 the data storage system has a management server connected via a first network, comprising:

inputting a file type and time those said multiple computers use, to said management server;

10 retrieving by said management server a configuration information database and displaying a physical storage position of a logical unit that corresponds to said file;

retrieving another logical unit related to said physical storage position and displaying said another logical unit;

15 retrieving data in which a modification history of said data storage system is accumulated, and displaying modified contents of said data storage system related to said storage position before said time;

20 retrieving data in which a performance history of a logical unit is accumulated, and displaying a performance of a logical volume after said time; and

displaying or posting said modified contents of said system when the performance of said logical volume is degraded.

25 16. A control method of a data storage system in which multiple computers those use information and multiple external storage systems those store information are connected to a

network respectively, each of them is arranged separately, and the data storage system has a management server connected via a first network, comprising:

inquiring by a management server, a computer of the size of a file that an application software of said computer uses, and receiving a response in point of time series; and

retrieving by said management server, association between a logical disk unit and said file that was stored in the unit from contents of a configuration information database, and indicating a relationship between the capacity of said logical disk unit and the size of said file in point of time series.

17. The control method of the data storage system according to claim 16, wherein said relationship predicts, displays or posts the time when said capacity of said logical disk unit and said file size become equal using the contents of said configuration information database.

18. A data storage system in which multiple external storage systems that store information are connected to a network and each of them is arranged separately, each external storage system has an external connection interface that sends event information in order to define or refer to its own configuration, show performance and data or post a fault, comprising:

a management server part as its part, which is connected to said external storage system; and

a configuration information database that accumulates

event information of said multiple external storage systems via said external connection interface in point of time series.

19. The data storage system according to claim 18, wherein said management server part issues an exclusive control command to said multiple external storage systems when event information in said configuration information database is accumulated in point of time series.

20. A data storage system in which multiple computers those use information and multiple external storage systems those store information are connected to a network respectively and each of them is arranged separately, each computer installs an application for acquiring its own host logical configuration information, each external storage system has an external connection interface that sends event information in order to define or refer to its own configuration, to show performance and data, or to post a fault, comprising:

a management server part as its part; and

a configuration information database; wherein

the part is connected to said external storage systems and accumulates event information of said multiple external storage systems via said external connection interface into said configuration information database, and

the part is connected to said computers and accumulates host logical configuration information of said multiple computers via said network, in point of time series.

21. The data storage system according to claim 20, wherein
said management server part makes said event information of said
multiple external storage systems and said host logical
configuration information correspond to each other when they
5 are accumulated in said configuration information database in
point of time series.

22. The data storage system according to claim 19 or 21,
wherein said management server comprises a function of retrieving
said configuration information database by specifying a file
and time information those said computers handle.

23 The data storage system according to claim 19 or 21,
wherein said management server comprises a function of displaying
a modification history of a system configuration or a history
of a system performance.

24. The data storage system according to claim 19 or 21,
wherein said management server comprises a function that posts
the time when the size of a file that an application of said
computer uses reaches the capacity of a logical disk unit of
said external storage system.